Lab Assignment 4

Grading scheme

Ex	Mark	Requirements	Test cases
1_0	1	• Lab demo	
1_1	1	• Does not produce any errors (lines in the runner with '!') • Correct sequence of disk_read(); both page number and frame number must be correct	read
2_1	0.5	• Obtained mark for 1_1 • Pass 1_1 requirement on current test cases • (implied: no errors caused by writing)	write
2_2	0.5	• Obtained mark for 2_1 • No warnings for writing non-dirty page to disk • Correct sequence of disk_write(); both page number and frame number must be correct	write
2_3	0.5	• Pass 1_1 requirements on current test cases	read, write, write_eff (Using efficiency constraints)
2_4	-0.5	• Obtained mark for 2_2 and 2_3	
2_5	0.5	• Pass 2_2 and 2_3 requirements on current test cases	read, write, write_eff (Using efficiency constraints)
2_6	0.5	• Obtained mark for 1_1 • Pass 1_1 requirements on current test cases	read_segfault
2_7	-0.5	• Obtained mark for 2_2 and 2_6	
2_8	0.5	• Obtained mark for 2_7 • Pass 2_2 and 2_6 requirements on current test cases	write_segfault
3_1	0.5	• Obtained mark for 1_1 • Pass 1_1 requirements on current test cases • OS chooses an available page to map	mmap_addonly
3_2	0.5	• Obtained mark for 3_1 • Pass 3_1 requirements on current test cases • OS unmaps correct page • disk_delete() happens during unmap	munmap
3_3	0.5	• Obtained mark for 2_8 and 3_2 • Pass 2_8 and 3_2 requirements on current test cases • OS does not unmap page if it is already not mapped	munmap_full
3_4	0.5	• Obtained mark for 3_2 • Pass 3_2 for current test cases	read, mmap_addonly, munmap, munmap_eff (Using efficiency constraints)

3_5	-0.5	• Obtained mark for 3_3 and 3_4	
3_6	0.5	• Pass 3_3 and 3_4 requirements on current test cases	read, write, write_eff, read_segfault, write_segfault, mmap_addonly, munmap, munmap_eff, munmap_full, munmap_full_eff (Using efficiency constraints)
4_1	0.5	• Pass 3_3 requirements on current test cases • disk_create() happens just before first access of page	read, write, read_segfault, write_segfault, mmap_addonly, munmap, munmap_full
4_2	0.5	• Obtained mark for 4_1 • Pass 4_1 requirements on current test cases	read, write, write_eff, read_segfault, write_segfault, mmap_addonly, munmap, munmap_eff, munmap_full, munmap_full_eff (Using efficiency constraints)

Test case description

read	Contains “r” command only
write	Contains “r” and “w” commands
write_eff	Contains “r” and “w” commands, but larger and specially-crafted test cases
read_segfault	Contains “r” and “r*” commands
write_segfault	Contains “r”, “r*”, “w”, “w*” commands
mmap_addonly	Contains “r” and “m” commands
munmap	Contains “r”, “m”, “u” commands
munmap_full	Contains “r”, “r*”, “w”, “w*”, “m”, “u”, “u*” commands
munmap_eff	Contains “r”, “m”, “u” commands, but larger and specially-crafted test cases
munmap_full_eff	Contains “r”, “r*”, “w”, “w*”, “m”, “u”, “u*” commands, but larger and specially-crafted test cases

When “Using efficiency constraints” is not specified, we let the OS take 1 second per page fault.

Where specified, we additionally only let the OS take N+ 4 seconds in total where N is the number of commands in the input file.